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RULE 476
Steam Generating Equipment

(A) General

(1) Purpose

(a) The purpose of this rule is to limit emissions of oxides of nitrogen (NO_x) and Particulate Matter from non-Mobile, Steam Generating Equipment.

(2) Applicability

(a) The rule applies to non-Mobile Steam Generating Equipment having a maximum heat input rate of:

(i) more than 50 million BTU (MMBtu) but no greater than 500 MMBtu per hour, for which a permit to build, erect, install or expand was required after May 7, 1976; or

(ii) more than 500 MMBtu per hour, regardless of whether new or existing.

(b) The NO_x emission limits of this rule shall not apply to Steam Generating Equipment which is subject to a NO_x emission limit in District Rule 1157 or 1158.

(B) Definitions

For the purposes of this rule, the following definitions shall apply:

(1) "California Air Resources Board" (CARB) - The California State Air Resources Board the powers and duties of which are described in Part 2 of Division 26 of the California Health & Safety Code (commencing with §39500).

(2) "Emission Control System Operating Parameters" – any operating parameter(s) of installed emission control equipment that the District deems necessary to analyze for the determination of compliance. Such parameters may include, but are not limited to, the ammonia and gas flow rates, exhaust temperature, humidity, water injection rate, exhaust gas flow rate and the temperature for water injection.

(3) "Heat Input" - the chemical heat released due to fuel combustion in Steam Generating Equipment, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.

(4) "Mobile" - describes a device by which any person or property may be propelled, moved, or drawn upon the surface, waterways, or through the atmosphere, and which emits Air Contaminants. For the purpose of this rule, the description "Mobile" includes registered motor vehicles which are licensed and/or driven on the public roadways of the state of California.

(5) "Monitoring Plan" – a document which specifies the parameters to be monitored and records to be kept for each piece of Steam Generating Equipment subject to the Rule. Parameters to be monitored and/or recorded may include, but are not limited to: annual hours of operation; equipment load; the type, higher heating value and annual usage of each fuel; occurrence and duration of start-up, shut-down and breakdown periods; the results of compliance tests; monitored NO_x, Particulate Matter and stack-gas oxygen (O_2) concentrations; and Emission Control System Operating Parameters.

(6) "Particulate Matter" - any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(7) "Rated Heat Input" - the Heat Input capacity in MMBtu per hour specified on the nameplate(s) of the Steam Generating Equipment, unless the Steam Generating Equipment is operated, consistent with the Permit to Operate, above the Heat Input capacity specified on the nameplate(s), in which case the maximum operated rate shall be used as the Rated Heat Input.

(8) "Steam Generating Equipment" - boilers or other combustion equipment, fired with any fuel, used to produce steam. If the simultaneous operations of more than one boiler or other such equipment are required for the production of steam, then the minimum number necessary shall be considered as one piece of Steam Generating Equipment.

(9) "United States Environmental Protection Agency" (USEPA) - refers to the Administrator or the appropriate designee of the United States Environmental Protection Agency.

(C) Requirements

(1) Any Steam Generating Equipment shall not emit:

(a) NO_x, expressed as nitrogen dioxide (NO_2), referenced at dry stack-gas conditions and 3.0 percent by volume stack-gas oxygen, in excess of:

(i) 125 parts per million by volume (ppmv), when operated on gaseous fuel;

(ii) 225 ppmv, when operated on liquid or solid fuel;or

(iii) the heat input weighted average of the limits specified in (C)(1)(a)(i) and (ii) above, when operated on combinations of both gaseous and liquid and/or solid fuels.

(iv) Emission concentrations shall be corrected to 3.00 percent oxygen as follows:

$$[\text{ppm } NO_x]_{\text{corrected}} = \frac{17.95\%}{20.95\% - [\%O_2]_{\text{measured}}} \text{ x } [\text{ppm } NO_x]_{\text{measured}}$$

(b) Particulate matter that exceeds both of the following two limits:

(i) 5 kilograms (11 pounds) per hour; and

(ii) 23 milligrams per cubic meter (0.01 gr/SCF)

(D) Exemptions

(1) The provisions of this rule shall not apply to any Steam Generating Equipment:

(a) which has a Rated Heat Input of 50 MMBtu per hour or less; and/or

(b) that continues to operate less than 200 hours within any continuous four consecutive calendar quarter period.

(E) Monitoring and Records

(1) Frequency

(a) All Steam Generating Equipment subject to the requirements of subsection (C)(1)(a) shall demonstrate compliance with the NO_x emission limits through emission compliance testing not less than once every 12 months. This 12 month period shall be measured based upon the permit renewal date.

(b) Steam Generating Equipment shall demonstrate compliance with the Particulate Matter emission limits through emission compliance testing not less than once every 12 months, unless the equipment is fired exclusively on natural gas. Steam Generating Equipment fired exclusively on natural gas shall demonstrate compliance with the Particulate Matter emission limits not less than once every 60 months. If the Steam Generating Equipment is fired on any fuel other than natural gas within the 60 month period, compliance with the Particulate matter emission limits shall be demonstrated when firing natural gas and when firing the fuel other than natural gas not less than once every twelve months.

(2) Procedures

(a) Compliance testing required by this rule shall follow the administrative procedures outlined in the District's Compliance Test Procedural Manual. All emission determinations shall be made as stipulated in the test protocol accepted by the District.

(b) All emission concentrations and emission rates shall be based upon hourly averages.

(c) The owners or operators of Steam Generating Equipment subject to this rule shall submit all required compliance test reports to the District.

(d) Any owner or operator of Steam Generating Equipment subject to the NO_x limits of this Rule shall submit a Monitoring Plan to the District for approval. Upon approval of the Monitoring Plan, the District will notify the owner or operator in writing. The owner or operator shall keep current and on site for a minimum of two years such records as are specified in the District-approved Monitoring Plan. Records shall be updated routinely and made available to the District, CARB and USEPA upon request.

(e) Any owner or operator of Electric Power Generating Equipment subject to the Particulate Matter limits of this Rule shall keep records current and on site for a minimum of two years.

(F) Test Methods

(1) Compliance with the NO_x emission limits in subsection (C)(1)(a) shall be determined using one of the following test methods, as appropriate:

(a) USEPA Method 7, 7A, 7C, or 7E.

(2) Compliance with the Particulate Matter limits in subsection (C)(1)(b) shall be determined using one of the following test methods, as appropriate:

(a) USEPA Method 5, 5B, 5D, or 5F.

(3) Determination of percent by volume stack-gas oxygen shall be determined using USEPA Method 3A.

(4) Alternative test methods may be used upon obtaining the approval of the Air Pollution Control Officer, CARB and USEPA.

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